

WHAT IS CLAIMED IS:

1. A composition for durable non-permanent shaping or durable retention of a non-permanent shape of least one keratinous fiber comprising:

(a) at least one film forming agent; and

(b) at least one compound chosen from C₃ to C₅ monosaccharides substituted with at least one C₁ to C₂₂ carbon chain,

wherein said at least one film forming agent and said at least one compound are present in an amount effective to impart a durable non-permanent shape to said at least one keratinous fiber or to durably retain a non-permanent shape of said at least one keratinous fiber.

2. A composition according to claim 1, wherein said at least one film forming agent is chosen from film forming polymers and film forming resins.

3. A composition according to claim 2, wherein said film forming polymers are chosen from cationic polymers.

4. A composition according to claim 3, wherein said cationic polymers are chosen from polyquaternium-16, polyquaternium-46 and polyquaternium-44.

5. A composition according to claim 2, wherein said film forming polymers are chosen from nonionic polymers.

6. A composition according to claim 5, wherein said nonionic polymers are chosen from:

(i) polymers derived from (1) corn starch and (2) polyvinylpyrrolidone; and

(ii) copolymers derived from (1) vinyl acetate and (2) vinylpyrrolidone.

7. A composition according to claim 2, wherein said film forming polymers are chosen from anionic polymers.

8. A composition according to claim 7, wherein said anionic polymers are chosen from:

(i) polymers derived from (1) vinyl acetate, (2) crotonic acid and (3) vinyl neodecanoate;

(ii) polymers derived from (1) acrylic acid, (2) acrylates, (3) hydroxyacrylates and (4) succinic acid; and

(iii) polymers derived from at least two different monomers each chosen from acrylic acid, methacrylic acid, esters of acrylic acid, and esters of methacrylic acid.

9. A composition according to claim 2, wherein said anionic polymers are neutralized.

10. A composition according to claim 1, wherein said at least one film forming agent is present in said composition in an amount ranging from 0.01% to 30% by weight relative to the total weight of the composition.

11. A composition according to claim 10, wherein said at least one film forming agent is present in said composition in an amount ranging from 0.1% to 10% by weight relative to the total weight of the composition.

12. A composition according to claim 1, wherein said C₃ to C₅ monosaccharides are chosen from pentoses.

13. A composition according to claim 12, wherein said pentoses are chosen from aldopentoses and ketopentoses.

14. A composition according to claim 13, wherein said aldopentoses are chosen from xylose, arabinose, lyxose, and ribose.

15. A composition according to claim 13, wherein said ketopentoses are chosen from ribulose and xylulose.

16. A composition according to claim 1, wherein said C₃ to C₅ monosaccharides are chosen from tetroses.

17. A composition according to claim 16, wherein said tetroses are chosen from aldotetroses and ketotetroses.

18. A composition according to claim 17, wherein said aldotetroses are chosen from erythrose and treose.

19. A composition according to claim 17, wherein said tetroses are chosen from erythrulose.

20. A composition according to claim 1, wherein said C₃ to C₅ monosaccharides are chosen from trioses.

21. A composition according to claim 20, wherein said trioses are chosen from aldotrioses and ketotrioses.

22. A composition according to claim 21, wherein said trioses are chosen from glyceraldehyde.

23. A composition according to claim 21, wherein said trioses are chosen from dihydroxyacetone.

24. A composition according to claim 1, wherein said C₃ to C₅ monosaccharides are chosen from furanoses and derivatives thereof.

25. A composition according to claim 1, wherein said C₃ to C₅ monosaccharides are chosen from derivatives of C₃ to C₅ monosaccharides.

26. A composition according to claim 25, wherein said derivatives of C₃ to C₅ monosaccharides are chosen from imine derivatives of C₃ to C₅ monosaccharides, hemiacetal derivatives of C₃ to C₅ monosaccharides, hemiketal derivatives of C₃ to C₅ monosaccharides, and oxidized derivatives of C₃ to C₅ monosaccharides.

27. A composition according to claim 25, wherein said derivatives of C₃ to C₅ monosaccharides are chosen from oligosaccharides derived from C₃ to C₅ monosaccharides.

28. A composition according to claim 27, wherein said oligosaccharides derived from C₃ to C₅ monosaccharides are chosen from xylobiose.

29. A composition according to claim 25, wherein said derivatives of C₃ to C₅ monosaccharides are further substituted with at least one group different from said at least one C₁ to C₂₂ carbon chain.

30. A composition according to claim 1, wherein said at least one C₁ to C₂₂ carbon chain is chosen from linear, branched and cyclic C₁ to C₂₂ carbon chains, which are saturated or unsaturated.

31. A composition according to claim 1, wherein said at least one C₁ to C₂₂ carbon chain is substituted.

32. A composition according to claim 1, wherein said at least one C₁ to C₂₂

carbon chain is chosen from C₁₆ to C₁₈ carbon chains.

33. A composition according to claim 1, wherein said at least one C₁ to C₂₂ carbon chain is chosen from C₁₆ carbon chains and C₁₈ carbon chains.

34. A composition according to claim 33, wherein said C₁₆ carbon chains are linear hexadecyl chains.

35. A composition according to claim 33, wherein said C₁₈ carbon chains are linear octadecyl chains.

36. A composition according to claim 1, wherein said ~~at least one compound~~ is substituted with said at least one C₁ to C₂₂ carbon chain at the C1 position of said at ~~least one compound~~.

37. A composition according to claim 1, wherein said at least one compound is substituted with said at least one C₁ to C₂₂ carbon chain at least one of the hydroxyl groups of said at least one compound.

38. A composition according to claim 1, wherein said at least one compound is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

39. A composition according to claim 38, wherein said at least one compound is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

40. A composition according to claim 1, wherein said composition further comprises at least one additional sugar different from said at least one compound chosen from C₃ to C₅ monosaccharides substituted with at least one C₁ to C₂₂ carbon

chain.

41. A composition according to claim 40, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

42. A composition according to claim 41, wherein said monosaccharides are chosen from hexoses.

43. A composition according to claim 42, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

44. A composition according to claim 40, wherein said at least one additional sugar is substituted with at least one C_1 to C_{22} carbon chain.

45. A composition according to claim 44, wherein said at least one C_1 to C_{22} carbon chain is chosen from linear, branched and cyclic C_1 to C_{22} carbon chains, which are saturated or unsaturated.

46. A composition according to claim 45, wherein said at least one C_1 to C_{22} carbon chain is chosen from C_{16} to C_{18} carbon chains.

47. A composition according to claim 45, wherein said at least one C_1 to C_{22} carbon chain is chosen from C_{16} carbon chains and C_{18} carbon chains.

48. A composition according to claim 47, wherein said C_{16} carbon chains are linear hexadecyl chains.

49. A composition according to claim 47, wherein said C_{18} carbon chains are linear octadecyl chains.

50. A composition according to claim 44, wherein said at least one additional

sugar is substituted with said at least one C₁ to C₂₂ carbon chain at the C1 position of said at least one additional sugar.

51. A composition according to claim 40, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

52. A composition according to claim 51, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

53. A composition according to claim 1, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

54. A composition according to claim 1, wherein said at least one keratinous fiber is hair.

55. A composition according to claim 1, further comprising at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients, colorants, screening agents, preserving agents, proteins, vitamins, silicones, polymers such as thickening polymers, plant oils, mineral oils, and synthetic oils.

56. A composition according to claim 1, wherein said composition is heat-activated.

57. A method for durable non-permanent shaping of at least one keratinous fiber or for durable retention of a non-permanent shape of at least one keratinous fiber

comprising:

applying to said at least one keratinous fiber a composition comprising:

- (a) at least one film forming agent, and
- (b) at least one compound chosen from C₃ to C₅ monosaccharides substituted with at least one C₁ to C₂₂ carbon chain; and

heating said at least one keratinous fiber,

wherein said at least one film forming agent and said at least one compound are present in an amount effective to impart a durable non-permanent shape to said at least one keratinous fiber or to durably retain a non-permanent shape of said at least one keratinous fiber, and

further wherein said composition is applied prior to said heating or during said heating.

58. A method according to claim 57, further comprising wetting said at least one keratinous fiber with water prior to said application.

59. A method according to claim 57, further comprising shampooing said at least one keratinous fiber subsequent to said heating.

60. A method according to claim 59, further comprising rinsing said at least one keratinous fiber subsequent to said shampooing.

61. A method according to claim 57, wherein said at least one film forming agent is chosen from film forming polymers and film forming resins.

62. A method according to claim 61, wherein said film forming polymers are chosen from cationic polymers.

63. A method according to claim 62, wherein said cationic polymers are chosen from polyquaternium-16, polyquaternium-46 and polyquaternium-44.

64. A method according to claim 62, wherein said film forming polymers are chosen from nonionic polymers.

65. A method according to claim 62, wherein said nonionic polymers are chosen from:

- (i) polymers derived from (1) corn starch and (2) polyvinylpyrrolidone; and
- (ii) copolymers derived from (1) vinyl acetate and (2) vinylpyrrolidone.

66. A method according to claim 62, wherein said film forming polymers are chosen from anionic polymers.

67. A method according to claim 66, wherein said anionic polymers are chosen from:

- (i) polymers derived from (1) vinyl acetate, (2) crotonic acid and (3) vinyl neodecanoate;
- (ii) polymers derived from (1) acrylic acid, (2) acrylates, (3) hydroxyacrylates and (4) succinic acid; and
- (iii) polymers derived from at least two monomers chosen from acrylic acid, methacrylic acid, esters of acrylic acid, and esters of methacrylic acid.

68. A method according to claim 62, wherein said anionic polymers are neutralized.

69. A method according to claim 57, wherein said at least one film

forming agent is present in said composition in an amount ranging from 0.01% to 30% by weight relative to the total weight of the composition.

70. A method according to claim 69, wherein said at least one film forming agent is present in said composition in an amount ranging from 0.1% to 10% by weight relative to the total weight of the composition.

71. A method according to claim 57, wherein said C_3 to C_5 monosaccharides are chosen from pentoses.

72. A method according to claim 71, wherein said pentoses are chosen from aldopentoses and ketopentoses.

73. A method according to claim 72, wherein said aldopentoses are chosen from xylose, arabinose, lyxose, and ribose.

74. A method according to claim 72, wherein said ketopentoses are chosen from ribulose and xylulose.

75. A method according to claim 57, wherein said C_3 to C_5 monosaccharides are chosen from tetroses.

76. A method according to claim 75, wherein said tetroses are chosen from aldotetroses and ketotetroses.

77. A method according to claim 76, wherein said aldotetroses are chosen from erythrose and treose.

78. A method according to claim 76, ~~wherein said tetroses are chosen from~~
erythrulose.

79. A method according to claim 57, wherein said C_3 to C_5 monosaccharides

are chosen from trioses.

80. A method according to claim 79, wherein said trioses are chosen from aldotrioses and ketotrioses.

81. A method according to claim 80, wherein said trioses are chosen from glyceraldehyde.

82. A method according to claim 80, wherein said trioses are chosen from dihydroxyacetone.

83. A method according to claim 57, wherein said C₃ to C₅ monosaccharides are chosen from furanoses and derivatives thereof.

84. A method according to claim 57, wherein said C₃ to C₅ monosaccharides are chosen from derivatives of C₃ to C₅ monosaccharides.

85. A method according to claim 84, wherein said derivatives of C₃ to C₅ monosaccharides are chosen from imine derivatives of C₃ to C₅ monosaccharides, hemiacetal derivatives of C₃ to C₅ monosaccharides, hemiketal derivatives of C₃ to C₅ monosaccharides, and oxidized derivatives of C₃ to C₅ monosaccharides.

86. A method according to claim 84, wherein said derivatives of C₃ to C₅ monosaccharides are chosen from oligosaccharides derived from said C₃ to C₅ monosaccharides.

87. A method according to claim 86, wherein said oligosaccharides derived from said C₃ to C₅ monosaccharides are chosen from xylobiose.

88. A method according to claim 84, wherein said derivatives of C₃ to C₅ monosaccharides are further substituted with at least one group different from said at

least one C_1 to C_{22} carbon chain.

89. A method according to claim 57, wherein said at least one C_1 to C_{22} carbon chain is chosen from linear, branched and cyclic C_1 to C_{22} carbon chains, which are saturated or unsaturated.

90. A method according to claim 57, wherein said at least one C_1 to C_{22} carbon chain is substituted.

91. A method according to claim 57, wherein said at least one C_1 to C_{22} carbon chain is chosen from C_{16} to C_{18} carbon chains.

92. A method according to claim 57, wherein said at least one C_1 to C_{22} carbon chain is chosen from C_{16} carbon chains and C_{18} carbon chains.

93. A method according to claim 92, wherein said C_{16} carbon chains are linear hexadecyl chains.

94. A method according to claim 92, wherein said C_{18} carbon chains are linear octadecyl chains.

95. A method according to claim 57, wherein ~~said at least one compound is substituted with said at least one C_1 to C_{22} carbon chain at the C1 position of said at least one sugar.~~

96. A method according to claim 57, wherein said at least one compound is substituted with said at least one C_1 to C_{22} carbon chain at at least one of the hydroxyl groups of said at least one sugar.

97. A method according to claim 57, wherein said at least one compound is present in said composition in an amount ranging from 0.01% to 10 % by weight relative

to the total weight of the composition.

98. A method according to claim 97, wherein said at least one compound is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

99. A method according to claim 57, wherein said composition further comprises at least one additional sugar different from said at least one compound chosen from C₃ to C₅ monosaccharides substituted with at least one C₁ to C₂₂ carbon chain.

100. A method according to claim 99, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

101. A method according to claim 100, wherein said monosaccharides are chosen from hexoses.

102. A method according to claim 102, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

103. A method according to claim 100, wherein said at least one additional sugar is substituted with at least one C₁ to C₂₂ carbon chain.

104. A method according to claim 103, wherein said at least one C₁ to C₂₂ carbon chain is chosen from linear, branched and cyclic C₁ to C₂₂ carbon chains, which are saturated or unsaturated.

105. A method according to claim 104, wherein said at least one C₁ to C₂₂ carbon chain is chosen from C₁₆ to C₁₈ carbon chains.

106. A method according to claim 104, wherein said at least one C₁ to C₂₂ carbon chain is chosen from C₁₆ carbon chains and C₁₈ carbon chains.

107. A method according to claim 106, wherein said C₁₆ carbon chains are linear hexadecyl chains.

108. A method according to claim 106, wherein said C₁₈ carbon chains are linear octadecyl chains.

109. A method according to claim 103, wherein said at least one additional sugar is substituted with said at least one C₁ to C₂₂ carbon chain at the C1 position of said at least one additional sugar.

110. A method according to claim 103, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

111. A method according to claim 110, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

112. A method according to claim 57, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

113. A method according to claim 57, wherein said at least one keratinous fiber is hair.

114. A method according to claim 57, further comprising at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering

agents, opacifying agents, solubilizing agents, emollients, colorants, screening agents, preserving agents, proteins, vitamins, silicones, polymers such as thickening polymers, plant oils, mineral oils, and synthetic oils.

115. A method according to claim 57, wherein said composition is applied prior to and during said heating.

116. A method according to claim 57, wherein said composition imparts a durable non-permanent shape to said at least one keratinous fiber and durably retains a non-permanent shape of said at least one keratinous fiber.

117. A method for durable non-permanent shaping of at least one keratinous fiber or for durable retention of a non-permanent shape of at least one keratinous fiber comprising:

applying to said at least one keratinous fiber a composition comprising at least one compound chosen from C_3 to C_5 monosaccharides substituted with at least one C_1 to C_{22} carbon chain; and

heating said at least one keratinous fiber,

wherein said at least one compound is present in an amount effective to impart a durable non-permanent shape to said at least one keratinous fiber or to durably retain a non-permanent shape of said at least one keratinous fiber, and

further wherein said composition is applied prior to said heating or during said heating.

118. A method according to claim 117, further comprising wetting said at least one keratinous fiber with water prior to said applying.

119. A method according to claim 117, further comprising shampooing said at least one keratinous fiber subsequent to said heating.

120. A method according to claim 119, further comprising rinsing said at least one keratinous fiber subsequent to said shampooing.

121. A method according to claim 117, wherein said C₃ to C₅ monosaccharides are chosen from pentoses.

122. A method according to claim 121, wherein said pentoses are chosen from aldopentoses and ketopentoses.

123. A method according to claim 122, wherein said aldopentoses are chosen from xylose, arabinose, lyxose, and ribose.

124. A method according to claim 122, wherein said ketopentoses are chosen from ribulose and xylulose.

125. A method according to claim 117, wherein said C₃ to C₅ monosaccharides are chosen from tetroses.

126. A method according to claim 125, wherein said tetroses are chosen from aldotetroses and ketotetroses.

127. A method according to claim 126, wherein said aldotetroses are chosen from erythrose and treose.

128. ~~A method according to claim 126, wherein said tetroses are chosen from erythrulose.~~ ^{ald}

129. A method according to claim 117, wherein said C₃ to C₅ monosaccharides are chosen from trioses.

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130. A method according to claim 129, wherein said trioses are chosen from aldotrioses and ketotrioses.

131. ~~A method according to claim 130, wherein said trioses are chosen from glyceraldehyde.~~

132. ~~A method according to claim 130, wherein said trioses are chosen from dihydroxyacetone.~~

133. A method according to claim 117, wherein said C₃ to C₅ monosaccharides are chosen from furanoses and derivatives thereof.

134. A method according to claim 117, wherein said C₃ to C₅ monosaccharides are chosen from derivatives of C₃ to C₅ monosaccharides.

135. A method according to claim 134, wherein said derivatives of C₃ to C₅ monosaccharides are chosen from imine derivatives of C₃ to C₅ monosaccharides, hemiacetal derivatives of C₃ to C₅ monosaccharides, hemiketal derivatives of C₃ to C₅ monosaccharides, and oxidized derivatives of C₃ to C₅ monosaccharides.

136. A method according to claim 134, said derivatives of C₃ to C₅ monosaccharides are chosen from oligosaccharides derived from said C₃ to C₅ monosaccharides.

137. A method according to claim 136, wherein said oligosaccharides derived from said C₃ to C₅ monosaccharides are chosen from xylobiose.

138. A method according to claim 134, wherein said derivatives of C₃ to C₅ monosaccharides are further substituted with at least one group different from said at least one C₁ to C₂₂ carbon chain.

139. A method according to claim 117, wherein said at least one C₁ to C₂₂ carbon chain is chosen from linear, branched and cyclic C₁ to C₂₂ carbon chains, which are saturated or unsaturated.

140. A method according to claim 117, wherein said at least one C₁ to C₂₂ carbon chain is substituted.

141. A method according to claim 117, wherein said at least one C₁ to C₂₂ carbon chain is chosen from C₁₆ to C₁₈ carbon chains.

142. A method according to claim 117, wherein said at least one C₁ to C₂₂ carbon chain is chosen from C₁₆ carbon chains and C₁₈ carbon chains.

143. A method according to claim 142, wherein said C₁₆ carbon chains are linear hexadecyl chains.

144. A method according to claim 142, wherein said C₁₈ carbon chains are linear octadecyl chains.

145. A method according to claim 117, wherein said at least one compound is substituted with said at least one C₁ to C₂₂ carbon chain at the C1 position of said at least one sugar.

146. A method according to claim 117, wherein said at least one compound is substituted with said at least one C₁ to C₂₂ carbon chain at at least one of the hydroxyl groups of said at least one sugar.

147. A method according to claim 117, wherein said at least one compound is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

148. A method according to claim 147, wherein said at least one compound is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

149. A method according to claim 117, wherein said composition further comprises at least one additional sugar different from said at least one compound chosen from C₃ to C₅ monosaccharides substituted with at least one C₁ to C₂₂ carbon chain.

150. A method according to claim 149, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

151. A method according to claim 150, wherein said monosaccharides are chosen from hexoses.

152. A method according to claim 151, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

153. A method according to claim 149, wherein said at least one additional sugar is substituted with at least one C₁ to C₂₂ carbon chain.

154. A method according to claim 153, wherein said at least one C₁ to C₂₂ carbon chain is chosen from linear, branched and cyclic C₁ to C₂₂ carbon chains, which are saturated or unsaturated.

155. A method according to claim 154, wherein said at least one C₁ to C₂₂ carbon chain is chosen from C₁₆ to C₁₈ carbon chains.

156. A method according to claim 154, wherein said at least one C₁ to C₂₂

carbon chain is chosen from C₁₆ carbon chains and C₁₈ carbon chains.

157. A method according to claim 156, wherein said C₁₆ carbon chains are linear hexadecyl chains.

158. A method according to claim 156, wherein said C₁₈ carbon chains are linear octadecyl chains.

159. A method according to claim 153, wherein said at least one additional sugar is substituted with said at least one C₁ to C₂₂ carbon chain at the C1 position of said at least one additional sugar.

160. A method according to claim 149, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

161. A method according to claim 160, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

162. A method according to claim 117, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

163. A method according to claim 117, wherein said at least one keratinous fiber is hair.

164. A method according to claim 117, further comprising at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients, colorants, screening agents,

preserving agents, proteins, vitamins, silicones, polymers such as thickening polymers, plant oils, mineral oils, and synthetic oils.

165. A method according to claim 117, wherein said composition is applied prior to and during said heating.

166. A method according to claim 117, wherein said composition imparts a durable non-permanent shape to said at least one keratinous fiber and durably retains a non-permanent shape of said at least one keratinous fiber.

167. A composition for durable non-permanent shaping or durable retention of a non-permanent shape of least one keratinous fiber comprising at least one compound chosen from C_3 to C_5 monosaccharides substituted with at least one C_1 to C_{22} carbon chain, wherein said at least one compound is present in an amount effective to impart a durable non-permanent shape to said at least one keratinous fiber or to durably retain a non-permanent shape of said at least one keratinous fiber.

168. A composition according to claim 167, wherein said C_3 to C_5 monosaccharides are chosen from pentoses.

169. A composition according to claim 168, wherein said pentoses are chosen from aldopentoses and ketopentoses.

170. A composition according to claim 169, wherein said aldopentoses are chosen from xylose, arabinose, lyxose, and ribose.

171. A composition according to claim 169, wherein said ketopentoses are chosen from ribulose and xylulose.

172. A composition according to claim 167, wherein said C_3 to C_5

monosaccharides are chosen from tetroses.

173. A composition according to claim 172, wherein said tetroses are chosen from aldotetroses and ketotetroses.

174. A composition according to claim 173, wherein said aldotetroses are chosen from erythrose and treose.

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175. A composition according to claim 173, wherein said tetroses are chosen from erythrulose.

176. A composition according to claim 167, wherein said C₃ to C₅ monosaccharides are chosen from trioses.

177. A composition according to claim 176, wherein said trioses are chosen from aldotrioses and ketotrioses.

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178. A composition according to claim 177, wherein said trioses are chosen from glyceraldehyde.

179. A composition according to claim 177, wherein said trioses are chosen from dihydroxyacetone.

180. A composition according to claim 167, wherein said C₃ to C₅ monosaccharides are chosen from furanoses and derivatives thereof.

181. A composition according to claim 167, wherein said C₃ to C₅ monosaccharides are chosen from derivatives of C₃ to C₅ monosaccharides.

182. A composition according to claim 181, wherein said derivatives of C₃ to C₅ monosaccharides are chosen from imine derivatives of C₃ to C₅ monosaccharides, hemiacetal derivatives of C₃ to C₅ monosaccharides, hemiketal derivatives of C₃ to C₅

monosaccharides, and oxidized derivatives of C_3 to C_5 monosaccharides.

183. A composition according to claim 181, wherein said derivatives of C_3 to C_5 monosaccharides are chosen from oligosaccharides derived from C_3 to C_5 monosaccharides.

184. A composition according to claim 183, wherein said oligosaccharides derived from C_3 to C_5 monosaccharides are chosen from xylobiose.

185. A composition according to claim 181, wherein said derivatives of C_3 to C_5 monosaccharides are further substituted with at least one group different from said at least one C_1 to C_{22} carbon chain.

186. A composition according to claim 167, wherein said at least one C_1 to C_{22} carbon chain is chosen from linear, branched and cyclic C_1 to C_{22} carbon chains, which are saturated or unsaturated.

187. A composition according to claim 167, wherein said at least one C_1 to C_{22} carbon chain is substituted.

188. A composition according to claim 167, wherein said at least one C_1 to C_{22} carbon chain is chosen from C_{16} to C_{18} carbon chains.

189. A composition according to claim 167, wherein said at least one C_1 to C_{22} carbon chain is chosen from C_{16} carbon chains and C_{18} carbon chains.

190. A composition according to claim 189, wherein said C_{16} carbon chains are linear hexadecyl chains.

191. A composition according to claim 189, wherein said C_{18} carbon chains are linear octadecyl chains.

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192. A composition according to claim 167, wherein said at least one compound is substituted with said at least one C₁ to C₂₂ carbon chain at the C1 position of said at least one compound.

193. A composition according to claim 167, wherein said at least one compound is substituted with said at least one C₁ to C₂₂ carbon chain at least one of the hydroxyl groups of said at least one compound.

194. A composition according to claim 167, wherein said at least one compound is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

195. A composition according to claim 194, wherein said at least one compound is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

196. A composition according to claim 167, wherein said composition further comprises at least one additional sugar different from said at least one compound chosen from C₃ to C₅ monosaccharides substituted with at least one C₁ to C₂₂ carbon chain.

197. A composition according to claim 196, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

198. A composition according to claim 197, wherein said monosaccharides are chosen from hexoses.

199. A composition according to claim 198, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose,

psicose, fructose, and tagatose.

200. A composition according to claim 196, wherein said at least one additional sugar is substituted with at least one C_1 to C_{22} carbon chain.

201. A composition according to claim 200, wherein said at least one C_1 to C_{22} carbon chain is chosen from linear, branched and cyclic C_1 to C_{22} carbon chains, which are saturated or unsaturated.

202. A composition according to claim 201, wherein said at least one C_1 to C_{22} carbon chain is chosen from C_{16} to C_{18} carbon chains.

203. A composition according to claim 201, wherein said at least one C_1 to C_{22} carbon chain is chosen from C_{16} carbon chains and C_{18} carbon chains.

204. A composition according to claim 203, wherein said C_{16} carbon chains are linear hexadecyl chains.

205. A composition according to claim 204, wherein said C_{18} carbon chains are linear octadecyl chains.

206. A composition according to claim 200, wherein said at least one additional sugar is substituted with said at least one C_1 to C_{22} carbon chain at the C1 position of said at least one additional sugar.

207. A composition according to claim 196, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

208. A composition according to claim 207, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight

relative to the total weight of the composition.

209. A composition according to claim 167, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

210. A composition according to claim 167, wherein said at least one keratinous fiber is hair.

211. A composition according to claim 167, further comprising at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients, colorants, screening agents, preserving agents, proteins, vitamins, silicones, polymers such as thickening polymers, plant oils, mineral oils, and synthetic oils.

212. A composition according to claim 167, wherein said composition is heat-activated.

213. A kit for protecting at least one keratinous fiber from extrinsic damage or for repairing at least one keratinous fiber following extrinsic damage said kit comprising at least one compartment,

wherein said at least one compartment comprises a composition comprising at least one compound chosen from C₃ to C₅ monosaccharides substituted with at least one C₁ to C₂₂ carbon chain, and

wherein said at least one compound is present in an amount effective to impart a durable non-permanent shape to said at least one keratinous fiber or to durably retain a non-permanent shape of said at least one keratinous fiber.

214 A kit according to claim 213 wherein said composition further comprises at least one additional sugar, different from said at least one compound.

215. A kit according to claim 213, wherein said composition further comprises at least one film forming agent.

216. A kit according to claim 213, further comprising a second compartment comprising a composition comprising at least one film forming agent.

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